Region 1 FY 2013 Invasive Species Control Program Proposal

Refuge/complex name: Hanford Reach National Monument

Project title: Highway 24 – Homestead Reclamation Project

Total amount requested: $40,000

Project description:

Target Invasive Species: Kochia (*Bassia scoparia*; Class B noxious weed in WA), Smotherweed (*Bassia hyssopifolia*), Tumblemustard (*Sisymbrium altissimum*), Russian thistle (*Salsola tragus*, *S. kali*)
Infested Acres: ~363 acres
Treatment Acres: ~150 acres

The Highway 24 – Homestead project is a multi-year site reclamation effort designed to address a habitat degradation and hazardous fuel issue primarily caused by leaching irrigation water. This increased out-of-season moisture has significantly altered the hydrology and soil chemistry of the project area, allowing kochia and other invasive broadleaf weeds (including smotherweed, tumble mustard, and two species of Russian thistle) to invade and outcompete the stressed native shrub-steppe habitats. The multi-year prescription that has been developed for this site involves mowing existing standing weeds and detritus, burning the area, chemically treating the invasive components using a rotational, multiple mode-of-action series of herbicide applications, and then progressively seeding in selected native grasses, forbs, sub-shrubs, and shrubs. This project was initiated in 2012 using multiple funding sources, including hazardous fuels, station funds, and an ISCP grant. Approx. 100 acres were prescribed burned in late spring 2012, the entire project area ("treatment acres") was chemically treated twice against invasive weeds, and the burned area was reseeded in winter 2012 using a customized native grass seed mix. Sufficient seed was also procured to seed the remaining 50 acres, though some seed germ loss is expected to occur.

The proposed project would continue implementation of the reclamation prescription. Specifically, the remaining 50 acres which could not be burned in 2012 due to loss of prescription weather conditions would be burned. Target broadleaf weeds would be treated in the reseeded areas to protect and enhance these efforts, and general invasives control would occur in the burned areas. New weed occurrences would be chemically treated as encountered. A small amount of additional grass seed (of selected species) would be procured to augment the in-hand seed, to counter germ loss; all grass seed will be applied early winter 2013 in the newly burned areas. Forb seed would be purchased for early winter spot application in those areas seeded in 2012, to create small islands of native forbs that can then reestablish within the rest of the project area.

Distinct project with well-defined objectives (10 points):
The subbing irrigation water that is the primary driver behind degradation of native habitats of the project area is administratively and legislatively protected. Since the reality is that the subbing cannot be stopped or controlled, the prescription that was developed was designed to address the invasive weeds present in the site and to introduce and augment native species that are better able to adapt to the altered hydrology. This is done by exhausting the seed bank of invasives through attrition, protecting surviving native components whenever and wherever possible, introducing native competitors to fill the void left by the removal of the invasives, and augmenting this "new" native community through replicated seral stage introductions. The end goal is a self-sustaining and resistant native-based successional community,

capable of maintaining itself against reinvasion and of expanding into the adjoining habitats that are themselves in the early stages of degradation and non-native invasion.

Potential for maximum control (10 points):
The project goal is to completely remove the invasive broadleaf component from the project area, exhaust its seed bank through attrition, and install a functioning native ecosystem better suited to the altered site characteristics. This prescription is based on established and demonstrated ecological principles. Elimination of the primary target species from the project area is possible by the end of the multi-year effort. As long as a self-sustaining native community can be established, long-term control of target species is likely.

Biological benefit to priority species or BIDEH (10 points):
By controlling the invasive components from the project area and introducing a functional native community better suited to the altered site conditions caused by the subbing moisture, a native ecosystem can be established and neighboring communities will be better able to withstand invasive pressures. One of the primary purposes of the Hanford Reach National Monument (Monument) as stated in Presidential Proclamation 7319 ("Establishment of the Hanford Reach National Monument") and in the Final Comprehensive Conservation Plan is to protect and restore shrub-steppe ecosystems. While restoration to pre-disturbance condition is not possible given the source of the site degradation, reclamation to an alternate native condition is both possible and desirable. While restoration of the shrub-steppe is its own goal, shrub-steppe dependent species (such as sage sparrows, striped whipsnakes, and burrowing owls) will also benefit.

Utilizes the principles of Integrated Pest Management (5 points):
The proposed project uses mechanical controls (prescribed fire), chemical, cultural (competition seeding), and Early Detection/Rapid Response (spot treatment of new weed occurrences).

Monitoring to document and evaluate project success (5 points):
The project area has been mapped with a GPS unit and then stratified in GIS. New and individual weed occurrences will be GPS'ed at treatment using hand-held Trimble® units and a customized data dictionary in TerraSync®. These GPS files will be imported into the Complex's GIS for long-term documentation and monitoring. All treatments will be tracked within this GIS. Treated sites will be revisited in subsequent years and retreatments will be made as needed. Sampling transects will be established in the stratified areas to monitor frequency and cover percentages. Multiple photopoints have been established within and adjacent to the treatment area to monitor site conditions over time.

Involves matching funds (*not required*) or in-kind support from partners (5 points):
Hanford Fire, USFS, other USFWS fire crews (Turnbull NWR), various county and city fire districts from Grant, Adams, Franklin, and Benton Counties, and the Washington Department of Transportation will be involved in the prescribed burn. Friends of the Mid-Columbia River Refuges, as well as other Refuge volunteers, will assist with the monitoring.

Budget: $40,000
Personnel: $10,100
Operations: $7,800
Equipment/Travel: $2,750
Materials: $19,350

Project Contact: Kevin Goldie, Wildlife Biologist, Mid-Columbia River NWR Complex, 509-546-8323

Comment [BFW1]: 8 points just because it is going to require another year of ISCP funding in FY14 to achieve.

Comment [BFW2]: When is the last year of this project?

Comment [BFW3]: Not as competitive of a justification in comparison to the other proposals received this year… The direct benefits to trust species and BIDEH is not nearly as compelling as in the rye field proposal.